UNITED STATES ENVIRONMENTAL PROTEC
REGION 5
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OCT 30 2006

Mr. Richard A. Powers
Chief, Water Division
Michigan Department of Environmental Quality
P.O. Box 30273
Lansing, Michigan 48909-7773

Re: MAEAP Criteria and Structure, June 2006

Dear Mr. Powers:

My staff working on CAFO, non-point source, and agricultural issues have reviewed the document referenced above, and we offer you our comments in the enclosed document.

We share a desire to work with Michigan's agricultural sector to minimize water pollution that may be caused by the manure and wastewater generated at animal feeding operations (AFOs), as we also share goals to reduce and eliminate water quality impairments in Michigan. We are pleased about the development of the Michigan Agriculture Environmental Assurance Program (MAEAP), and believe that MAEAP can be a creative voluntary collaborative program that can effectively help small and medium AFOs adequately manage their manure and wastewater. For large concentrated animal feeding operations, our review concludes that the Michigan National Pollutant Discharge Elimination System protects Michigan's water resources to a far greater degree than MAEAP. Please see the enclosure.

Additionally, we have concerns that Clean Water Act Section 319 funding assists in the formulation of management plans for small and medium animal feeding operations, and that information collected during the development of those plans might not be available for review by either the Michigan Department of Environmental Quality or to the Environmental Protection Agency. Considering the effort and resources we have committed to collaboration with agriculture, such as our efforts with the USDA Michigan Technical Committee to add points for Environmental Quality Incentives Program (EQIP)-funded projects located in watersheds subject to agriculture-related TMDLs, we would consider the current MAEAP to be a good effort in the right direction that would be more effective if further strengthened.

The enclosed consolidated comments express our concerns. Please do not hesitate to contact me to discuss these issues. We look forward to working with you and with the MAEAP stakeholders to finalize a program that is both acceptable to the agricultural community and accountably protective of water quality.

Sincerely yours,

Jo Lynn Traub
Director, Water Division

Enclosure

cc: Thomas Davenport
Stephen Jann
Kevin Pierard

Consolidated EPA Region 5 Water Division Comments on the "June 2006 MAEAP Criteria and Structure" Document

Organizational Structure

1. The Michigan Agriculture Environmental Assurance Program (MAEAP) Administrative and Livestock System committees include representatives from the United States Department of Agriculture (USDA), Michigan State University, certain state agencies, and several groups that advocate on behalf of persons who own or operate agricultural enterprises. In the recent past, the Michigan Department of Environmental Quality (MDEQ) formed a diverse committee of stakeholders who provided advice and perspective as the State developed administrative rules for concentrated animal feeding operations (CAFOs). Given its diversity, the MDEQ stakeholder committee likely represented the varied interests in the State better than the MAEAP Administrative and Livestock System committees.

Decisionmaking

2. The MAEAP Criteria and Structure do not include procedures through which the Michigan Department of Agriculture (MDA) will decide to verify, or revoke verification from, the owner or an agricultural enterprise. Federal regulations include detailed procedures for decision-making in the National Pollutant Discharge Elimination System (NPDES) program. 40 CFR part 124.

3. Michigan law provides that MDA can inspect an agricultural enterprise to verify adherence to MAEAP expectations only after receiving permission to perform the inspection from the landowner. MCL § 324.8203. Federal regulations provide that a person who holds an NPDES permit shall allow the State or EPA to inspect the facility and review the records that must be maintained under the permit. 40 CFR § 122.41.

4. Michigan law provides that information submitted to MDA by the owner of an agricultural enterprise shall be kept confidential and is exempt from the Michigan Freedom of Information Act. MCL § 324.8207. In 2006, EPA proposed a regulation that would require a CAFO owner or operator to submit a nutrient management plan with an application for an NPDES permit. Current regulations provide that permit applications (including attachments thereto) and point source effluent data may not be withheld from public review. 40 CFR § 122.7.

Livestock Standards

A. Adequate Storage Assessment

5. The MAEAP Criteria and Structure provide that new structures for manure and wastewater storage shall meet the Michigan Natural Resources Conservation

Service (NRCS) Conservation Practice Standard for a Waste Storage Facility (Code 313). The Criteria and Structure do not specify date after which a constructed storage would be considered new. Federal regulations define a new source CAFO as a Large operation the construction of which commenced after April 14, 2003. The referenced Criteria and Structure provide that new storage shall be sized to contain (1) the direct precipitation and runoff from the 25-year, 24-hour storm and (2) manure, wastewater, and normal direct precipitation (less evaporation) that accumulates over a six month period provided, however, that the volume contemplated above can be reduced where land is judged suitable for surface application of manure and wastewater in the winter based on evaluation performed in accordance with the Michigan NRCS Manure Application Risk Index (MARI).

The MAEAP Criteria and Structure do not require existing manure and wastewater storage structures to include either of the volumes contemplated in (2), above. Instead, the Criteria and Structure provide that existing structures must provide storage "whenever land suitable for application is not available." The Michigan NPDES program is superior because:

(1) it requires existing and new storages to include capacity for (a) the direct precipitation and runoff from the 25-year, 24-hour storm (or 100-year, 24-hour storm in the case of new source swine, poultry, and veal operations) and (b) manure, wastewater, and normal direct precipitation (less evaporation) that accumulates over a six month period and

(2) the MAEAP Criteria and Structure for existing storage is vaguely stated and, thus, subject to interpretation.

6. The MAEAP Criteria and Structure include criteria for assessing the adequacy of storage for agricultural wastewater. The term "agricultural wastewater" is not defined. As a result, it is not clear whether the criteria apply to egg wash water and precipitation runoff from manure stacking areas (i.e., stockpiles), raw material (e.g., bedding) stacking areas, and mortality management areas. The Michigan NPDES program defines the term "CAFO process wastewater" to include egg wash water and precipitation runoff from the areas listed above.

7. The MAEAP Criteria and Structure require storage for silage area runoff to include the design elements described above. However, a remark made by the MDA MAEAP Program Manager at the 2006 Great Lakes Manure Handling Expo indicates that, in practice, MAEAP may verify an operation with silage area storage sized to (1) include the capacity for a design storm that is much shorter in duration and occurs much more frequently than the 25-year, 24-hour event and (2) exclude capacity needed to store runoff during periods when "land suitable for application is not available."

8. The MAEAP Criteria and Structure provide that the owner of an agricultural enterprise has up to three years after preparation of a comprehensive nutrient management plan (CNMP) to meet the criteria for adequate storage. Michigan expected owners of Large CAFOs who intended to participate in MAEAP to communicate their intentions by September 2005. Michigan further expected such owners to have a CNMP such that they could be verified by MDA within one year of communicating their intention. According to the MAEAP criteria, then, it appears as though participating CAFOs would have until September 2009 to establish adequate storage. The Michigan NPDES program is superior because it requires CAFO owners to have adequate storage by the time they are authorized under a permit. Federal regulations require permitted CAFOs to have adequate storage 26 months sooner than MAEAP.

B. Conservation practices

9. The MAEAP Criteria and Structure require conservation practices to prevent production area contaminated runoff from reaching waters of the State. It stipulates that a system of vegetative, structural, and managerial practices may be needed.

   It is not clear how the requirement for conservation practices that "prevent production area contaminated runoff from reaching waters of the State" relates to the requirement, as described in A., above, for adequate storage for manure, agricultural wastewater, and silage area runoff. Will MDA verify an operation that uses a vegetative filter strip to "prevent" contaminated runoff from a feedlot, manure stockpile, or silage storage area from reaching waters of the State or would verification be conditioned on the installation of containment and adequate storage for all such runoff?

10. The MAEAP Criteria and Structure provide that "any field that has a manure application on snow covered or frozen ground is required to have a MARI evaluation documented in the CNMP." The Criteria and Structure do not require a MARI evaluation for fields that have an agricultural wastewater or silage area runoff application on snow-covered or frozen ground. The Michigan NPDES program is superior to MAEAP in part because it prohibits surface application of manure, agricultural wastewater (i.e., CAFO process wastewater), and silage area runoff on snow-covered and frozen ground the runoff from which may flow to surface waters.

C. Clean water diversions from the production area

12. The discussions of silage pad runoff, feedlot runoff, and contaminated storm water management seem misplaced in the MAEAP Criteria and Structure section on clean-water diversion from the production area.

13. In its discussion of clean-water diversion from the production area, the MAEAP Criteria and Structure provide that capacity must exist to contain dry-weather leachate and silage area runoff from the 25-year, 24-hour storm event. However, this section of the Criteria and Structure appears to contradict the section on adequate storage because the former section does not require additional capacity to contain and store runoff when land "suitable for application is not available." Separately, MAEAP staff are advised that capacity to contain leachate and runoff from the 25-year, 24-hour storm is likely not adequate to meet the stated goal of preventing a discharge to waters of the State. The Michigan NPDES program is superior to MAEAP because it requires storage for silage area runoff (i.e., CAFO process wastewater) to include capacity for (a) the direct precipitation and runoff from the 25-year, 24-hour storm (or 100-year, 24-hour storm in the case of new source swine, poultry, and veal operations) and (b) manure, wastewater, and normal direct precipitation (less evaporation) that accumulates over a six month period.

14. In its discussion of clean-water diversion from the production area, the MAEAP Criteria and Structure provide that feedlot runoff needs to be collected, stored, and utilized. The discussion goes on to say that "MAEAP does not require exactly how feedlot runoff is collected. MAEAP evaluates if the installed practices to manage feedlot runoff prevent a discharge to waters of the State." The discussion includes no mention of minimum elements in the required design of storage for feedlot runoff. This omission combined with the statements quoted above raise a question about whether or not feedlot runoff must be contained in storage that is sized to meet the adequate storage requirements summarized in A., above.

15. The discussion of clean-water diversion from the production area includes a discussion of contaminated storm water management. It is not clear how the term "contaminated storm water" relates to terms used elsewhere including agricultural wastewater and silage pad runoff. For Large CAFOs, the discussion says that contaminated storm water "is collected, stored, and utilized as specified in the CNMP." This statement does not include required standards for management of contaminated storm water. The discussion also says that Medium CAFOs may use a filter strip to treat contaminated storm water. MAEAP staff is advised that mere treatment of contaminated storm water (by means such as a filter strip) is not likely to meet the stated goal of preventing a discharge to waters of the State.

H. Land application requirements

16. The MAEAP Criteria and Structure includes two sentences that cloud the issue of whether or not adherence to the Michigan NRCS Conservation Practice Standard for nutrient management (code 590) is required. The first such sentence appears in the paragraph that begins on page 12 and continues on page 13 of the Livestock Standards document. It says that the 590 Standard is guidance. The second sentence appears in the third full paragraph on page 13. It says that nutrient

applications must be done in accordance with the 590 Standard. The comments that follow are based on an assumption that adherence to the 590 Standard is required.

17. MAEAP Criteria and Structure provide that all manure and nutrient applications must be done in accordance with Generally Accepted Agricultural Management Practices under the Michigan Right-to-Farm Act. However, as stated on page two of the GAAMPs for Manure Management and Utilization, GAAMPs are recommendations only.

18. The MAEAP Criteria and Structure do not identify the publication date for the version of the GAAMPs and 590 Standard that have been incorporated into the Livestock Standards. This makes it difficult to compare MAEAP to the Michigan NPDES program.

19. Land application standards implemented through the Michigan NPDES program will protect water quality to a greater degree than the standards implemented through MAEAP. Please see the accompanying table comparing the standards implemented through the two programs.

Comparison of MAEAP[1, 2] and Michigan NPDES[3] Requirements for Land Application of Manure and Process Wastewater (Manure)
Water Division
USEPA, Region 5
October 2006

		GAAMP	MI 590	MI NPDES
Manure Application Prohibited Practices	**Condition**			
	Saturated soil	None	Prohibited if the potential risk for runoff exists.	Application prohibited.
	Rain	None	None	Application prohibited.
	Forecasted rain	None	None	Application prohibited when the National Weather Service forecasts ≥ 70% chance of rainfall > 0.5 in., or less if a lesser amount can produce runoff in violation of water quality standards, within 24 hours of the time of planned application.

[1] Michigan Agriculture Environmental Assurance Program. 2006. *MAEAP Criteria and Structure: Livestock Standards.* Michigan Department of Agriculture. Lansing, Michigan.
[2] The Livestock Standards portion of the MAEAP Criteria and Structure provides that "all manure applications must be done in accordance with the … GAAMPs and NRCS 590 nutrient standard." The characterization of MAEAP in this table is based on the *Generally Accepted Agricultural Management Practices for Manure Management and Utilization* (Michigan Commissioner of Agriculture 2006) and *Conservation Practice Standard for Nutrient Management* (code 590) (USDA Michigan Natural Resources Conservation Service 2005).
[3] Michigan Department of Environmental Quality. 2005. *Michigan NPDES Permit no. MIG019000.* Lansing, Michigan.

		GAAMP	MI 590	MI NPDES
Manure Application Prohibited Practices	**Condition**			
	Frozen soil	None[4]	Prohibited on fields that have a high potential for manure movement as determined in accordance with Grigar and Lemunyon (2006)[5].	Surface application prohibited on fields or portions thereof where runoff will flow to surface waters.
	Snow	None[6]	Prohibited on fields that have a high potential for manure movement as determined in accordance with Grigar and Lemunyon (2006).	Surface application prohibited on fields or portions thereof where runoff will flow to surface waters.
Manure Application Phosphorus (P) Transport Risk Assessment Method		Bray 1 soil test P threshold.	P Index or Bray 1 soil test P threshold or soil test method[7].	Bray 1 soil test P threshold.

[4] GAAMP expectations for manure application on frozen soil are expressed as recommendations only ("Application of manure to frozen or snow-covered soils *should* be avoided, but where necessary, (a) solid manures *should* ..." (emphasis added)).

[5] Grigar, J. and J. Lemunyon. 2006. *A Procedure for Determining the Land Available for Winter Spreading of Manure in Michigan.* Agronomy Technical Note. 35. United States Department of Agriculture-Natural Resources Conservation Service. East Lansing, Michigan.

[6] GAAMP expectations for manure application on snow are expressed as recommendations only.

[7] While the MI 590 includes three options for assessing the risk of phosphorus movement to surface water, for the P Index and Soil Test methods it does not attach a value or numeric range to any risk category.

		GAAMP	MI 590	MI NPDES
Manure Application Annual Rates or Prohibition[8]	One-year nitrogen-based rate	None[9]	P < 75 ppm.	P < 75 ppm.
	One-year P-based rate	None	75 ≤ P ≤ 150 ppm[10].	75 ≤ P ≤ 150 ppm[11].
	Application prohibited	None	P > 150 ppm.	P > 150 ppm.
Manure Application Setback	**Feature**			
	Surface waters	None	None	100 feet or 35-foot vegetative buffer.
	Open tile intakes	None	None	100 feet or 35-foot vegetative buffer.
	Sinkholes	None	None	100 feet or 35-foot vegetative buffer.
	Agricultural wellheads	None	None	100 feet or 35-foot vegetative buffer.
	Other conduits to surface water	None	None	100 feet or 35-foot vegetative buffer.

[8] As a result of the gap described in footnote 7, the P Index and Soil Test methods cannot be used to make decisions about whether manure can be applied to a given field and, if it could be applied, whether the rate of application can be based on crop annual nitrogen needs or must be limited to crop annual phosphorus needs.

[9] GAAMP expectations for the annual rate of application are expressed as recommendations only ("The agronomic rate of N recommended for crops … *should* not be exceeded …" (emphasis added)).

[10] The MI 590 allows an annual application to supply the P needed for two crop years.

[11] The Michigan NPDES program allows an annual application to supply the P needed for two crop years in certain circumstances.